UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,480	12/12/2005	Weixiao Liu	PU030168	5634

24498 7590 10/03/2008

Joseph J. Laks
Thomson Licensing LLC
2 Independence Way, Patent Operations
PO Box 5312
PRINCETON, NJ 08543

EXAMINER	
RUSSELL, WANDA Z	
ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
10/03/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/560,480	LIU ET AL.	
	Examiner	Art Unit	
	WANDA Z. RUSSELL	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 December 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

Correction of the following is required: The “computer program product” of claims 36-37 lacks antecedent basis in the specification.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 10 recites the limitation "second threshold" in line 2. There is insufficient antecedent basis for this limitation in the claim. It seems that it should depend on claim 9, not 8.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1-4** are rejected under 35 U.S.C. 102(e) as being anticipated by Jun et al. (U.S. Patent 6,810,084 B1).

For **claim 1**, Jun et al. teach an apparatus (Fig. 5) for processing a stream of fixed-length packets (data segments each include a 188-byte transport packet, refer to abstract, lines 10-11) received as digitally encoded signals (MPEG data, refer to abstract, line 1) and having multiple packet types (null packets, refer to abstract, line 12. Based on the specification of the application, the multiple packet types mean null packets. See P. 10, or publication [0054]), each packet including a header portion and a data portion (it is well-know that each packet includes a header portion and a data portion), the header portion containing a sync byte (it is inherent that header portion contains a sync byte), the apparatus comprising:

a Null-Packet Detector (120 in Fig. 5) for detecting whether a received packet is a null-packet (a null packet detector for checking whether the formatted data include the null packets, refer to col. 3, lines 58-60) and for identifying the location of the sync-byte of a detected null-packet (when the formatted data include the null packets, outputting skip pulses and training sync signals, refer to col. 3, lines 60-61. “When” is the location).

For **claim 2**, Jun et al. teach the apparatus of claim 1, wherein the Null-Packet Detector further generates a Null_flag signal (skip pulses, refer to col. 3, line 61) to indicate whether a received packet is a null-packet (a null packet detector for checking whether the formatted data include the null packets, refer to col. 3, lines 58-60) and generates a Null_sync signal (training sync signals, refer to col. 3, line 61) to indicate the location of the sync-byte of a detected null-packet. (when the formatted data include the null packets, outputting skip pulses and training sync signals, refer to col. 3, lines 60-61).

For **claim 3**, Jun et al. teach the apparatus of claim 2, further comprising a circuit (145-Fig. 5) adapted to insert a predetermined sync-byte value into the sync-byte position indicated by the Null_sync signal (Fig. 5).

For **claim 4**, Jun et al. teach the apparatus of claim 2, further comprising a filter (120-Fig. 5. The detector plays the function of a filter) adapted to filter the Null_flag signal and adapted to generate a Null_lock signal (120 outputs skip signals … to freeze their operations, refer to col. 5, line 22. The skip signal is the Null_lock signal) a first value of which indicates that the stream contains a plurality of null packets (Fig. 6, and `Nn` represents the number of null packets, refer to col. 6, line 33. The detector provides the number).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Jun et al. (U.S. Patent 6,810,084 B1), in view of Dutta-Choudhury (U.S. Patent 5796868 A).

Jun et al. teach everything claimed as applied above (see claim 1, 2, and 4).

However, Jun et al. fail to specifically teach the apparatus of claim 4 wherein the filter implements hysteresis thresholding.

Dutta-Choudhury teaches the apparatus of claim 4 wherein the filter implements hysteresis thresholding (col. 1 line 66-col. 2, line 2).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Jun et al. with Dutta-Choudhury to obtain the invention as specified, to provide an improvement in effectiveness over a single threshold system.

8. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Jun et al. (U.S. Patent 6,810,084 B1), in view of Hershey et al. (U.S. Patent 5,414,833).

Jun et al. teach everything claimed as applied above (see claim 1, 2, and 4).

However, Jun et al. fail to specifically teach wherein the filter is implemented by a finite state machine.

Hershey et al. teach the filter is implemented by a finite state machine (refer to col. 12, lines 5-24, especially line 5 and finite machine, line 22).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Jun et al. with Hershey et al. to obtain the invention as specified, to provide implementation method of the process.

9. **Claims 7-9, 11-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jun et al. (U.S. Patent 6,810,084 B1), in view of Hashimoto et al. (U.S. Patent 6788654 B1).

For **claim 7**, Jun et al. teach everything claimed as applied above. In addition, Jun et al. teach the Null_lock signal output by the filter (120 outputs skip signals … to freeze their operations, refer to col. 5, line 22. The skip signal is the Null_lock signal).

However, Jun et al. fail to specifically teach the apparatus of claim 4, wherein the first value of Null_lock signal output by the filter indicates that the stream contains a first

threshold number of null-packets (Lock_In_thresh) within a first number of consecutive packets.

Hashimoto et al. teach the apparatus of claim 4, wherein the first value of Null_lock signal output by the filter indicates that the stream contains a first threshold number of null-packets (Lock_In_thresh) within a first number of consecutive packets (the null packet is a packet in which all bits except for first synchronizing bytes (47HEX) are 1, refer to col. 2, lines 58-59. The fact of all bits 1 is a first threshold number).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Jun et al. with Hashimoto et al. to obtain the invention as specified, to provide an improvement in effectiveness of the detection system.

For **claim 8**, Jun et al. and Hashimoto et al. teach everything claimed as applied above). In addition, Jun et al. teach the apparatus of claim 7, wherein at least one of the first threshold number and the first number of consecutive packets is programmable (from all figures it can be seen that the number is programmable).

For **claim 9**, Jun et al. and Hashimoto et al. teach everything claimed as applied above. In addition, Jun et al. teach the Null_lock signal output by the filter (120 outputs skip signals … to freeze their operations, refer to col. 5, line 22. The skip signal is the Null_lock signal).

However, they fail to specifically teach the apparatus of claim 7, wherein a second value of the Null_lock signal output by the filter indicates that the stream

contains a second threshold number (Lock_Out_thresh) of packets that are not null packets, within a second number of consecutive packets.

Hashimoto et al. teach the apparatus of claim 7, wherein a second value of the Null_lock signal output by the filter indicates that the stream contains a second threshold number (2-level training sync signals, refer to col. 6, line 1. Second level is the second threshold) (Lock_Out_thresh) of packets that are not null packets, within a second number of consecutive packets (the null packet is a packet in which all bits except for first synchronizing bytes (47HEX) are 1, refer to col. 2, lines 58-59. The fact of not all bits 1 is a second threshold number).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Jun et al. with Hashimoto et al. to obtain the invention as specified, to provide an improvement in effectiveness of the detection system.

For **claim 11**, Jun et al. teach everything claimed as applied above.

However, Jun et al. fail to specifically teach the apparatus of claim 2, wherein the Null-Packet Detector determines whether a received packet is a null-packet by comparing contents of the header portion of the received packet with a first predetermined value.

Hashimoto et al. teach the apparatus of claim 2, wherein the Null-Packet Detector determines whether a received packet is a null-packet by comparing contents of the header portion of the received packet with a first predetermined value (comparing said bit error rate with a predetermined threshold value to judge … the null packet is a

packet in which all bits except for first synchronizing bytes (47HEX) are 1, refer to col. 2, lines 40-43 & 58-59. The fact of all bits 1 is a first value).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Jun et al. with Hashimoto et al. to obtain the invention as specified, to provide an improvement in effectiveness of the detection system.

For **claim 12**, Jun et al. and Hashimoto et al. teach everything claimed as applied above.

However, they fail to specifically teach the apparatus of claim 11, wherein the Null-Packet Detector determines whether a received packet is a null-packet by further comparing contents of the data portion of the received packet with a second predetermined value.

Hashimoto et al. teach the apparatus of claim 11, wherein the Null-Packet Detector determines whether a received packet is a null-packet by further comparing contents of the data portion of the received packet with a second predetermined value (comparing said bit error rate with a predetermined threshold value to judge … the null packet is a packet in which all bits except for first synchronizing bytes (47HEX) are 1, refer to col. 2, lines 40-43 & 58-59. The fact of not all bits 1 is a second value).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Jun et al. with Hashimoto et al. to obtain the invention as specified, to provide an improvement in effectiveness of the detection system.

10. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Jun et al. (U.S. Patent 6,810,084 B1), in view of Hashimoto et al. (U.S. Patent 6,788,654 B1), and Lee et al. (Pub No. US 2003/0033025 A1).

Jun et al. and Hashimoto et al. each everything claimed as applied above.

However, they fail to specifically teach at least one of the first threshold number and the second threshold number is programmable.

Lee et al. teaches at least one of the first threshold number and the second threshold number is programmable ([0059], lines 6-7).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Jun et al. with Hashimoto et al. and Lee et al. to obtain the invention as specified, to provide an improvement in effectiveness of the detection system.

11. **Claims 13-37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jun et al. (U.S. Patent 6,810,084 B1), in view of Chien et al. (Pub No. US 2003/0115345 A1).

For **claim 13**, Jun et al. teach an apparatus (Fig. 5) and method for processing a stream of fixed-length packets (data segments each include a 188-byte transport packet, refer to abstract, lines 10-11) received as digitally encoded signals (MPEG data, refer to abstract, line 1) and having multiple packet types (null packets, refer to abstract, line 12. Based on the specification of the application, the multiple packet types mean null packets. See P. 10, or publication [0054]), each packet including a header portion

and a data portion (it is well-know that each packet includes a header portion and a data portion),

a Null-Packet Detector (120 in Fog. 5) adapted to detect whether a received packet is a null-packet (a null packet detector for checking whether the formatted data include the null packets, refer to col. 3, lines 58-60), and adapted to identify the location of the sync-byte of a detected null-packet (when the formatted data include the null packets, outputting skip pulses and training sync signals, refer to col. 3, lines 60-61. "When" is the location), and

an MPEG Sync-Byte Re-insertion circuit for inserting a predetermined value into the sync-byte location indicated by an MPEG synchronization signal (16-Fig. 5).

However, Jun et al. fail to specifically teach the header portion containing a checksum-encoded sync byte; a Syndrome Detector for detecting the checksum-encoded sync-byte and for generating a Sync_flag signal to indicate the location of the checksum-encoded sync-byte; and an MPEG Sync-Byte Re-insertion circuit for inserting a predetermined value into the sync-byte location indicated by an MPEG synchronization signal.

Chien et al. teach the header portion containing a checksum-encoded sync byte (perform the IP header checksum check to be compliant to the TCP/IP standard and to allow the early detection of the Cipher key out-of-sync situation, refer to [0076], lines 2-4);

a Syndrome Detector (IP header Checksum Check, refer to [0076], line 1, implies there is a Syndrome Detector) for detecting the checksum-encoded sync-byte (perform

the IP header checksum check to be compliant to the TCP/IP standard and to allow the early detection of the Cipher key out-of-sync situation, refer to [0076], lines 2-4) and for generating a Sync_flag signal to indicate the location of the checksum-encoded sync-byte (If the checksum check fails, the base drops the packet and processes the next packet, refer to [0076], lines 9-10, implies generating a Sync_flag signal to indicate the location of the checksum-encoded sync-byte).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Jun et al. with Hashimoto et al. to obtain the invention as specified, to provide an improvement in effectiveness of the detection system.

For **claim 14**, Jun et al. teach everything claimed as applied above. In addition, Jun et al. teach the apparatus of claim 13, wherein the Null-Packet Detector is further adapted to output a Null_sync signal to indicate the location of the sync-byte of a detected null-packet (when the formatted data include the null packets, outputting skip pulses and training sync signals, refer to col. 3, lines 60-61. “When” is the location).

For **claim 15**, Jun et al. teach everything claimed as applied above. In addition, Jun et al. teach the apparatus of claim 14, further comprising:

a multiplexor (145-Fig. 5), wherein the Sync_flag output of the Syndrome Detector (120-Fig. 5) and the Null_sync output of the Null-Packet Detector are multiplexed (Fig. 5) and are alternatively output by the multiplexor, to be used by the MPEG Sync-Byte Re-insertion circuit (16-Fig. 5), according to whether null packets have been detected.

For **claim 16**, Jun et al. teach everything claimed as applied above. In addition, Jun et al. teach the apparatus of claim 15, further comprising a decisional logic circuit operatively connected to the multiplexor and adapted to control the multiplexor so that when the Null-Packet Detector detects null packets, the Null_sync output of the Null Packet Detector is output by the multiplexor to be used as the MPEG synchronization signal by the MPEG Sync-Byte Re-insertion circuit (Fig. 5).

For **claim 17**, Jun et al. teach everything claimed as applied above. In addition, Jun et al. teach the apparatus of claim 14 adapted so that when null packets are detected, the Null_sync output of the Null Packet detector is used as the MPEG synchronization signal used by the MPEG Sync Re-insertion circuit (Fig. 5).

For **claim 18**, Jun et al. teach everything claimed as applied above. In addition, Jun et al. teach the apparatus of claim 17, wherein when null packets are not detected, the Null_sync output of the Null Packet detector is not used as the MPEG synchronization signal used by the MPEG Sync Re-insertion circuit (Fig. 6, and Nn is from 1 to Nn, refer to col. 6, line 34. When there is no null packet, the training sync signals will indicate it and it will not be used as the MPEG synchronization signal used by the MPEG Sync Re-insertion circuit).

For **claim 19**, Jun et al. teach everything claimed as applied above. In addition, Jun et al. teach the apparatus of claim 18, wherein when null packets are not detected, the Sync_flag output by the Syndrome Detector (120-Fig. 5) is used as the MPEG synchronization signal used by the MPEG Sync Re-insertion circuit (Fig. 5).

12. **Claims 20-37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jun et al. (U.S. Patent 6,810,084 B1), in view of Chien et al. (Pub No. US 2003/0115345 A1), and Hashimoto et al. (U.S. Patent 6788654 B1).

For **claim 20**, Jun et al. teach a method for processing a stream of fixed length packets (data segments each include a 188-byte transport packet, refer to abstract, lines 10-11),

However, Jun et al. fail to specifically teach each packet containing a checksum-encoded sync-byte, the stream including a plurality of packets that each contain a first fixed bit pattern in the header portion of each packet, the method comprising: performing a first detection step of decoding the checksum in the stream to detect a checksum-encoded sync byte position candidate in the current one of the fixed length packets; and performing a second detection step to detect the first fixed bit pattern in the header portion of the current one of the fixed length packets; if the first fixed bit pattern is detected in the stream of fixed length packets, then identifying the sync-byte position of the sync-byte of each of the fixed length packets based upon the detection of the first fixed bit pattern; inserting a predetermined sync-byte value into the identified sync-byte position.

Chien et al. teach each packet containing a checksum-encoded sync-byte (header checksum, refer to [0076], line 1; and out of sync, refer to [0076], line 4), and performing a first detection step of decoding the checksum in the stream to detect a checksum-encoded sync byte position ([0076], lines 1-end).

Further, Jun et al. in view of Chien et al. does not teach the stream including a plurality of packets that each contain a first fixed bit pattern in the header portion of each packet, and performing a second detection step to detect the first fixed bit pattern in the header portion of the current one of the fixed length packets.

Hashimoto et al. teach the stream including a plurality of packets that each contain a first fixed bit pattern in the header portion of each packet, and performing a second detection step to detect the first fixed bit pattern in the header portion of the current one of the fixed length packets (comparing said bit error rate with a predetermined threshold value to judge … the null packet is a packet in which all bits except for first synchronizing bytes (47HEX) are 1, refer to col. 2, lines 40-43 & 58-59. The fact of all bits 1 is a first value), and if the first fixed bit pattern is detected in the stream of fixed length packets, then identifying the sync-byte position of the sync-byte of each of the fixed length packets based upon the detection of the first fixed bit pattern; inserting a predetermined sync-byte value into the identified sync-byte position (the synchronizing code (hexadecimal 47) inserted in front bytes of respective TS packets, refer to col. 8, line 46 & lines 43-49).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Jun et al. with Chien et al. and Hashimoto et al. to obtain the invention as specified, to provide an improvement in effectiveness of the detection system.

For **claim 21**, Jun et al., Chien et al., and Hashimoto et al. teach everything claimed as applied above. In addition, Jun et al. teach the method of claim 20, wherein

the second detection step is performed only if a checksum-encoded sync byte position candidate is detected in the first detection step (data field sync signal, refer to col. 3, line 41-42; and a null packet detector for checking whether the formatted data include the null packets, refer to col. 3, lines 58-60).

For **claims 22-24, 28-30**, **and 32-33**, Jun et al., Chien et al., and Hashimoto et al. teach everything claimed as applied above. In addition, Jun et al. teach wherein while the first fixed bit pattern is not detected in the stream of fixed length packets (it is obvious that not all packets are null packets), and Hashimoto et al. teach the inserting as described for claim 20, and Jun et al. teach checking all incoming packets (Fig. 5).

For **claim 25**, it is the same as claim 7 (Hashimoto et al. teach that packet with all bits 1 except for the sync bytes is a null packet) except depending on claim 20, therefore it is rejected for the same reason above.

For **claim 26**, Jun et al., Chien et al., and Hashimoto et al. teach everything claimed as applied above. In addition, Jun et al. teach wherein said header portions comprise transport headers of an MPEG-2 Transport Stream (Col. 2, line 28).

For **claim 27**, Jun et al., Chien et al., and Hashimoto et al. teach everything claimed as applied above. However, they fail to teach wherein the first fixed bit pattern is a predetermined pattern that includes at least one of the following MPEG-2 transport stream link header field values: payload_unit_start_indicator=`0`, PID=0x1FFF, transport scrambling control=`00`, and adaptation field=`01`.

Chien et al., teach wherein the first fixed bit pattern is a predetermined pattern that includes at least one of the following MPEG-2 transport stream link header field

values: payload_unit_start_indicator=`0`, PID=0x1FFF, transport scrambling control=`00`, and adaptation field=`01` (Fig. 11).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Jun et al. with Chien et al. and Hashimoto et al. to obtain the invention as specified, to define the header information.

For **claim 31**, Jun et al., Chien et al., and Hashimoto et al. teach everything claimed as applied above. However, they fail to teach the method of claim 28, wherein if neither of the first and second detection steps has identified a sync byte position, then no predetermined sync-byte value is inserted in the stream of fixed length packets.

Chien et al., teach wherein if neither of the first and second detection steps has identified a sync byte position, then no predetermined sync-byte value is inserted in the stream of fixed length packets (if the checksum fails, drop the packet, refer to [0071], lines 5-6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Jun et al. with Chien et al. and Hashimoto et al. to obtain the invention as specified, to define the effectiveness of the detection system.

For **claims 34 and 35**, Jun et al. teach a method and an apparatus and means (Fig. 5, especially 120) for processing a stream of fixed length packets (data segments each include a 188-byte transport packet, refer to abstract, lines 10-11), the stream including a plurality of packets that each contain a first data pattern in a PID portion (it is well-known that packets contain a data pattern in a PID portion, see citation),

However, Jun et al. fail to specifically teach each packet including a checksum-encoded sync-byte, and decoding the checksum in a preceding one of the fixed length packets to detect a checksum-encoded sync byte candidate in a current one of the fixed length packets, and if a checksum-encoded sync byte candidate is detected in the decoding step, then searching for the first data pattern in the PID portion of the current one of the fixed length packets.

Chien et al. teach each packet including a checksum-encoded sync-byte (header checksum, refer to [0076], line 1; and out of sync, refer to [0076], line 4), and decoding the checksum in a preceding one of the fixed length packets to detect a checksum-encoded sync byte candidate in a current one of the fixed length packets ([0076], lines 1-end).

Further, Jun et al. in view of Chien et al. does not teach if a checksum-encoded sync byte candidate is detected in the decoding step, then searching for the first data pattern in the PID portion of the current one of the fixed length packets.

Hashimoto et al. teach if a checksum-encoded sync byte candidate is detected in the decoding step, then searching for the first data pattern in the PID portion of the current one of the fixed length packets (comparing said bit error rate with a predetermined threshold value to judge … the null packet is a packet in which all bits except for first synchronizing bytes (47HEX) are 1, refer to col. 2, lines 40-43 & 58-59. The fact of all bits 1 is a first value).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Jun et al. with Chien et al. and Hashimoto

et al. to obtain the invention as specified, to provide an improvement in effectiveness of the detection system.

For **claims 36-37**, they are computer program product claims for a set-top-box and a television set (digital TV receiver, refer to Jun, col. 3, line 32), corresponding to method claim 20, therefore they are rejected for the same reason above.

Citation of Pertinent Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fu et al. (Pub No. US 2004/0136352 A1) disclose header portion contains a sync byte (102 and 106 in Fig. 1), and each packet includes a header portion and a data portion, (Fig. 3), and PID (Fig. 1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WANDA Z. RUSSELL whose telephone number is (571)270-1796. The examiner can normally be reached on Monday-Thursday 9:00-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wanda Z Russell/
Examiner, Art Unit 2616

/Ian N. Moore/
Primary Examiner, Art Unit 2616